Acid Fast Blast – April 2005

In this issue . . .

DTC Congratulates the Spittoon Winners for 2004

The winners of the 2004 Traveling Spittoon Awards were announced at the World TB Day Presentations held statewide on March 23rd. DTC would like to congratulate all of the winners on their accomplishments during 2004.

Northern Region – Alexandria Health District
Northwestern Region – Rapahannock/Rapidan Health District
Central Region – Richmond City Health District
Eastern Region – Norfolk Health District
Southwest Region – Roanoke Health District

The award criteria for 2004 included the number of cases who completed treatment in one year or less, the number of cases on directly observed therapy (DOT), and the number of contacts who completed treatment for LTBI. In addition, complicating factors, such as HIV co-infection, homelessness, substance abuse, resistance to rifampin, or recent immigration are also considered in determining a district's performance score.

Issues in Tuberculin Skin Testing

The tuberculin skin test is currently the only widely used method for identifying infection with *M. tuberculosis* in individuals who do not have active tuberculosis disease. New technologies for identifying tuberculosis infection such as Quantiferon and Elispot have been developed recently, however, these have not been widely used and their usefulness in situations such as contact investigations has not been demonstrated. In addition, these new tests are not approved for use in persons under age 17.

The tuberculin test is based on the fact that infection with M. tuberculosis produces a delayed-type hypersensitivity (DTH) reaction to certain antigenic components of the organism. Two commercially prepared products are available in the United States, Aplisol (Parke-Davis Pharmaceuticals) and Tubersol (Pasteur Merieux-Connaught Laboratories). The tuberculin skin test is administered by injecting 0.1 ml of 5_TU PPD intradermally (Mantoux method) into the volar or dorsal surface of the forearm. Other areas may be used, but the forearm is preferred. The skin at the injection site should be free of lesions and an area away from veins should be selected. Typically, the reaction to tuberculin begins 5 to 6 hours after injection of the test antigen and peaks with maximal induration between 48 to 72 hours and subsides over a few days. In a few individuals

such as the elderly or those tested for the first time, the reaction may not peak until after 72 hours. These delayed reactions do not alter the interpretation of the test. Immediate hypersensitivity reactions to tuberculin or constituents of the PPD can also occur. Typically, hypersensitivity reactions will appear within the first few hours, disappear within 24 hours and should not be interpreted as a positive test result or delayed-type hypersensitivity reaction. Tests should be read at 48-72 hours following administration. Any induration noted should be carefully palpated to determine the induration, measured using a ruler or caliper designed for this purpose and the results should be recorded in millimeters. Based on an individual's risk factors, a determination should then be made and recorded as to whether the test result is considered positive or negative.

Two-step testing (boosting) is recommended only for individuals who will be tested on a periodic basis as part of an ongoing infection control program such as in a prison, hospital or nursing home. Two-step testing is not currently recommended for individuals tested as part of a contact investigation. These individuals, if negative on the initial test, should have their TST repeated 10-12 weeks after the last exposure to the index case as part of the ongoing contact investigation.

Occasionally there is concern about whether a TST should be repeated due to a questionable result. The necessity and time of any repeat test will be determined by the circumstances of the testing. In instances such as an individual returning late for a reading with a measurable but negative TST result, repeat testing can be performed immediately unless the individual has recently had a live virus vaccine. If the individual recently received a live virus vaccine, repeat testing must be deferred for 4-6 weeks in order to obtain accurate TST results. When the concern is one of possible conversion in an individual with a history of negative TSTs, the test can be repeated in several months to determine if the individual was in the process of converting to positive.

References:

"Targeted Testing and Treatment of Latent Tuberculosis Infection". MMWR 2000; 49(No. RR-6) http://www.cdc.gov/mmwr/PDF/rr/rr4906.pdf
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Technical Assistance for Assisted Living Facilities and Adult Day Care Centers

Recently, the Department of Social Services, Division of Licensing Programs (DOLP) sent a document entitled "Technical Assistance for Assisted Living Facilities and Adult Day Care Centers" to their regulated facilities. This document concerns the initial and subsequent tuberculosis evaluations for residents and staff of these types of facilities.

The Division of TB Control (DTC) is aware that this guidance has caused concern and confusion among both the facilities and local health departments. The guidance provided in the DOLP document in no way changes current DTC recommendations. For many years, DOLP required universal skin testing of persons in these facilities. The revised guidance now allows for the use of a risk assessment tool and clearance letter if that screening level is determined to be appropriate for an individual or facility. It does not preclude skin testing, x-rays or any further evaluation if a determination is made of need for those evaluations. Essentially, DOLP guidance and regulation is now coming line with health department practice over the last several years. If any district would like a copy of the DOLP guidance document, please contact Jane Moore, RN by email or phone at jane.moore@vdh.virginia.gov or 804-864-7920.

Ideally, testing polices and recommendations for each facility should be determined in conjunction with the local health department. These recommendations are determined by the community risk profile, the risk within the facility, the number of actual cases occurring within the facility and an assessment of special characteristics of staff and clients that would influence the risk. In facilities at increased risk, annual testing of both employees and clients may still be appropriate. In lower risk facilities, screening of all employees and clients upon hire/admission with a 2-step test with subsequent testing only in response to a known contact situation may be the most appropriate recommendation. Local health departments should identify and consult with the regulated facilities within their jurisdiction to assist in determining the most appropriate screening recommendations for their facilities.

In late 2004, the Centers for Disease Control and Prevention (CDC) published a draft version of "Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health-Care Settings, 2005." The comment period for these draft guidelines ended in early February 2005. As soon as these revised guidelines are published, DTC will make local health departments aware of any potential recommendation changes that would impact current screening guidelines and recommendations for assisted living facilities, adult day care centers and other long term care facilities for the elderly.

Newly Recognized Risk for Developing TB Disease if Infected – Patients Need Screening for TB Infection/Disease to Initiation of Biologic Response Modifiers

With the advent of new therapies for the treatment of rheumatoid arthritis and several other diseases, a new risk factor for developing active tuberculosis disease is emerging among patients treated with a new class of drugs known as Biologic Response Modifiers (BRM). Most of the drugs work against the tumor necrosis factor (TNF). Reports of active tuberculosis and other serious infections have been reported in persons taking the following drugs. Because of the increased risk of active disease, DTC recommends that patients should be fully evaluated for latent tuberculosis infection prior to the initiation of theses drugs and monitored for symptoms of active TB while undergoing treatment. The DTC Risk Assessment tool has been updated to reflect use of these agents as a risk for progression to active disease. If indicated, treatment for LTBI should also be initiated prior to the start of the BRM for arthritis therapy. The list below provides information on the current drugs in this class. As with any new therapies, additional agents may be added to the list in the future.

Current Biologic Response Modifiers in Use for the Treatment of Arthritis
1. Enbrel (etanercept) - http://www.enbrel.com/index.jsp
2. Remicade (infliximab) - http://www.remicade.com/
3. Humira (adalimumab) - http://www.humira.com/
4. Kineret (anakinra) - http://www.anakinra.com/
5. Rituxan/Mab Thera (rituximab) - Still in clinical trials for arthritis - http://www.rituxan.com/rituxan/index.jsp

References:

"Tuberculosis Associated with Blocking Agents Against Tumor Necrosis Factor-Alpha --- California, 2002—2003", MMWR, August 5, 2004 / 53(30);683-686. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5330a4.htm

Gardam, MA, Keystone, EC, Menzies, R, Manners. S Skamene, E, Long, R and Vinh, D. "Anti-tumour necrosis factor agents and tuberculosis risk: mechanisms of action and clinical management. The Lancet Infectious Diseases, Vol 3, March 2003, pages 148-155. http://infection.thelancet.com

Blanchard & Loeb, Nurse's Drug handbook, 2004. Pages 340-341, 444-445, 73-74.

Other Awards and Items of Interest

Tia Brown, a TB Outreach worker on the Eastern Shore was named Outstanding Community Health Worker for Region 8 by Virginia Center for Health Outreach. Tia is described as a "a dedicated, committed team player in the communities and other agencies to provide services to TB patients". Sandra Heflin, Brown's past supervisor

wrote, "Tia always goes the extra mile" is "a strong advocate for her patients" and "takes care of her patient caseload in a truly holistic manner. She has visited her patients in the evenings and on weekends to make sure they have food and other essentials for daily living (If not) she will do everything within her power to make sure they can obtain them." Tia also spearheaded and organized the Inter-Agency Outreach Network group, the first on the Eastern Shore. This idea has been very effective and includes representatives from many area agencies.